# Session SBI46 (2016)

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## Multilateral assessment
## Questions and answers France

Question by Brazil at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Target 2020

France reported a target to reduce GHG emissions by 40% by 2030, compared with 1990 levels.

The target of reducing emissions by 20% between 1990-2020 refers exclusively to emissions from the EU-28 as a whole.

Has France settled an individual target for 2020?

Answer by France, Friday, 28 April 2017

In 2010, the EU committed to reducing its GHG emissions by 20%, compared with 1990 levels, by 2020. Since this Convention target was submitted by the EU-28, rather than by each of its Member States, there are no specific Convention targets for individual Member States. Within the EU, this target was first translated to a -14% compared to 2005 levels, start year of the implementation of the EU ETS, and then it was divided into a -21% target compared with 2005 levels for the sectors covered by the European carbon market ("EU ETS", covering mostly industry and electricity production), and a -10% target compared to 2005 for the sectors which are not covered by the EU ETS (so-called "ESD" sectors, mostly buildings, transport, agriculture and waste). The EU ETS target has to be reached at the EU level, and is not shared among Member States. Only the ESD target is shared among Member States, with targets ranging from -20% to +20% in 2020 compared to 2005 for sectors not covered by the EU ETS. The ESD target for France is -14% in 2020 compared to 2005 for those sectors.

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Question by Republic of Korea at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Monitoring and evaluation for the mitigation actions

Does the implementing entities(ministries, agencies, or companies) monitor and evaluate mitigation policies or measures by themselves? Or, does a competent organization, such as Ministry of Ecology, Sustainable Development and Energy (MEDDE), conduct overall monitoring and evaluation?

Answer by France, Friday, 28 April 2017

The implementing entities monitor the policies and measures for which they are responsible. The Ministry of Environment, Energy and the Sea (previously named Ministry of Ecology, Sustainable Development and Energy) covers many of the sectors concerned by climate change combat efforts: transport, residential and tertiary sector, energy, and waste.

Within the Ministry of Environment, Energy and the Sea, the Directorate General for Energy and Climate (DGEC) coordinates the projections and the evaluations of mitigation policies and measures, in association with the different implementing entities. The DGEC either uses results produced by implementing entities, when available, or produces specific evaluations for the reporting on climate change when needed.

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Question by Republic of Korea at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Monitoring and evaluation for the mitigation actions

Does the government monitor and evaluate the mitigation actions listed in the CTF table 3?

Answer by France, Friday, 28 April 2017

The mitigation actions listed in Table 3 are identified as important policies and measures for climate action.

This list is regularly updated for the reporting in the UNFCCC framework and at the European level (reporting is every two years in both cases but at a different date).

The monitoring of measures is done by implementing entities as mentioned in our answer about implementing entities. Evaluations are performed either by implementing entities or by the Directorate General for Energy and Climate (DGEC) which is part of the Ministry of Environment, Energy and the Sea and which coordinates the work on projections and evaluations.

The overall effect of all existing measures is estimated in the projections, while the individual effects of policies and measures is estimated for some of them. Information on the effects of certain PaMs has been reported in CTF Table 3 where such data was available.

Moreover, these policies and measures are often also linked with recommendations included in the national low-carbon strategy. The indicators developed for the low-carbon strategy are very useful tools for the monitoring of mitigation actions and climate action in general.

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Question by Republic of Korea at Tuesday, 28 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Carbon Budget

Regarding France's carbon budget stated on page 14 of the second biennial report,

a. Could you elaborate more information about methodologies to establish carbon budget and decision-making process among the relevant ministries and agencies?

b. Please explain the specific plan, procedure, and methodologies for monitoring and reviewing implementation.

Answer by France, Friday, 28 April 2017

a. The first three carbon budgets were constructed on the basis of a prospective scenario, called "the reference scenario".

This scenario was developed under the aegis of a steering committee, made up of experts from the relevant ministries and industrial sectors. The steering committee was co-chaired by representatives of the Ministry for the Environment (Directorate General for Energy and Climate - DGEC, and the General Commission for Sustainable Development - CGDD) and the Agency for the Environment and Energy Efficiency (ADEME). The group's secretariat was composed of representatives of the Directorate General for Energy and Climate. This steering committee was cross-disciplinary in nature, incorporating sector-specific sub-committees (energy, transport, construction, industry, waste management, agriculture, forestry) when necessary. Throughout the working process - i.e. from the definition of the fundamental hypotheses up until presentation of the final results - the Information and Orientation Committee (CIO) met six times, inviting input from civil society figures regarding modelling decisions and discussing the results obtained. All organisations represented on the National Council for the Ecological Transition (which brings together representatives of employees, employers and consumers, environmental NGOs, territorial authorities and members of Parliament) were invited to take part in these CIO meetings.

The reference scenario was constructed in successive phases, starting by drawing up a list of policies and measures already in place as of 1st January 2014, then adding those measures included in the draft bill on Energy Transition and Green Growth which could be easily modelled, and any additional initiatives or changes contributing to the attainment of the measures set down in law. Moreover, a series of sensitivity tests allowed the committee to measure uncertainty surrounding the impact of certain factors and determine the level of mobilisation required by different scenarios, based on discussions in the information and orientation committee meetings.

b. Designed to "steer policy," the national low-carbon strategy (SNBC) is aimed primarily at public-sector decision-makers, particularly at national, regional and inter-municipal levels, including public institutions. For this priority target group, the SNBC and its carbon budgets are legally binding and must be respected.

The SNBC is spread over 67 cross-cutting and sectoral recommandations. 98 indicators have been designed in order to follow the implementation of these recommandations. These indicators are destined to be analyzed and updated regularly. This monitoring will be particularly useful in allowing us to gradually optimise the distribution of mitigation efforts across different sectors in successive phases. This distribution will depend on the initiatives and commitments of the various parties, as well as the effective implementation of measures and their observed efficacy, not to mention the new opportunities regularly opened up by progress in research and innovation.

The low-carbon strategy will be subjected to a comprehensive review cycle every five years. At this point, the perimeter covered by the next two budget cycles may be adjusted if necessary (particularly in light of France's commitments at European level regarding net carbon emissions connected to land usage and related changes). This process includes:

the opinion from a committee of experts regarding the success of the carbon budgets already in place (the balance of the one now reaching its conclusion, projections for the next two budgets) and how to implement the current low-carbon strategy. These findings will be passed on to the standing committees of the National Assembly and the Senate responsible for energy and the environment.

a government report covering the review of the low-carbon strategy, a draft for the forthcoming third carbon budget and any adjustments made to the first and second budget cycles. This report will clearly demonstrate how the draft carbon budget and the low-carbon strategy incorporate the domestic objectives, as well as France's European and international commitments. The report will assess the environmental, social and economic impact of the carbon budget for the coming periods and of the new low-carbon strategy, particularly with regard to the competitiveness of economic activities subject to international competition, the development of new, local activities, and overall growth.

the opinion of the National Committee for the Ecological Transition and its committee of experts.

a decree setting out the low-carbon strategy and corresponding carbon budgets.

these decisions will be presented in Parliament, along with a quantitative summary of the most recent carbon budget and an analysis of the results achieved in this cycle.

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Question by Japan at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Introduction of energy tax

France has introduced an energy taxation scheme as a mitigation action since 2014. If possible, can France explain the effect of this policy until now.

Answer by France, Friday, 28 April 2017

France introduced a carbon component in its energy taxation in 2014: 7 €/tCO2 in 2014, 14.5 €/tCO2 in 2015, 22 €/tCO2 in 2016, 30.5 €/tCO2 in 2017. The carbon component induces a reduction in energy consumption in the transport field (passenger cars and light duty vehicles) and a reduction in energy consumption in both residential and tertiary buildings. The industry field is almost not concerned with the tax (industries which operate in the fields covered by the Emission Trading System do not have to pay the carbon component). In the transport field, only passenger cars and light duty vehicles pay the carbon component. Trucks of over 7.5 tons do not pay the carbon component at present.

In the transportation field, the introduction of the carbon component means an increase in the price of fuel compared to a reference scenario with no carbon component, which leads to traffic reduction, a modal shift from cars to public transport or non motorised transport modes and encourages car drivers to buy cars that have lower carbon emissions.

In the building sector the introduction of the carbon component means an increase in gas and heating fuel prices compared to a reference scenario with no carbon component, which leads consumers to be more careful about their energy consumption and make investments in building insulation and high-performance heating devices more cost effective.

It is not possible to measure directly the impact of the carbon tax on energy consumption, because fuel and heating consumptions depend on a wide range of parameters (prices paid by the consumers depend on energy taxation but also on international fuel prices; there are incentives on energy consumption reduction over that taxation; annual heating consumption depends on the weather).

However it is estimated that in the transport field the overall elasticity between fuel consumption and fuel prices is of about -0.4. In the building sector the overall elasticity between energy consumption and energy prices is of about -0.2. Using these elasticities, the impact of the introduction of the carbon component is estimated at about 3 MtCO2 for the year 2017 : 1.8 MtCO2 for transport and 1.2 MtCO2 for the building sector (both residential and tertiary).

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Question by Japan at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Performance standards for passenger car

What is the current performance standards for car? What level of performance standards does France expect in the future?

Answer by France, Friday, 28 April 2017

The level of performance for cars is mainly influenced by EU regulation. The first EU regulation on emission from new cars was adopted in 2009 with a target in 2015 of 130 gCO2/km on average. A new regulation was adopted in 2014 with a target for 2021 of 95 gCO2/km on average (EU regulation n°333/2014). At the end of the year, the European Commission will propose to Member States a new regulation setting a performance standard for 2030.

In addition to EU regulation, France has also adopted different measures in order to foster the development of low emitting cars like the “bonus-malus” scheme introduced in 2008.

The average emissions of new cars in Europe was 120 gCO2/km in 2015, well below the target given by EU regulation. In 2016, average emissions for new cars was 118 gCO2/km in Europe and in France only 110 gCO2/km which is one of the lowest level in Europe.

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Question by Japan at Tuesday, 28 February 2017

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Factor of decrease of GHG emissions from the industry sector

According to Table 1 of the CTF, large emission reductions have been achieved in the industrial sector (manufacturing and construction in the Energy sector and IPPU sector) from 1990 to 2013. What is the factor of this reduction? Also, would you please share what kind of countermeasure contributed to this reduction and lessons learned from it?

Answer by France, Friday, 28 April 2017

The emissions of manufacturing and construction in the energy sector have been reduced by 34% between 1990 and 2013, and the emissions of the IPPU sector by 33% over the same period. In 2015, a study has been done to analyse the factors explaining the reduction in emissions related to energy consumption in the industry sector. According to this study, the reduction can be explained by two main factors. First, energy efficiency gains and implementation of pollution abatement equipments contributed to about half of the reduction in emissions. Secondly, the evolution of the energy mix has been favorable to natural gas, to the detriment of petroleum products, as well as to biomass, which has seen its market share almost double over the period (from 5% to almost 10%). This factor contributed to about a third of the reduction in emissions.

The measures that contributed to this reduction are the following:

- limitation on N2O emissions: as early as 1993, a regulation limited N2O emissions to 7kg per tonne of nitric acid produced. In 1999, this limitation was supplemented by the general tax on polluting activities taking into account nitrous oxide emissions (€ 57 / tonne). N2O emissions from the industrial processes and product use sector were reduced by 96% between 1990 and 2013;

- energy audits: since 1998, ADEME, the French Environment and Energy Management Agency, supports the firms that perform energy audits. Since 2015, energy audits are mandatory for large firms (companies employing more than 250 employees or having an annual turnover of more than € 50 million and a balance sheet total of more than € 43 million);

- the European Union Emission Trading Scheme (EU ETS), implemented since 2005, caps emissions from industrial facilities, encouraging both the use of renewable energies and energy efficiency improvements;

- the energy saving certificates system, implemented since 2006, is one of the major policy instruments used by France to control energy demand. The system is underpinned by a three-year obligation on energy suppliers to achieve energy savings. Energy suppliers are encouraged to promote energy efficiency to their customers (households, local authorities and businesses). These actions may be conducted across all sectors (residential, tertiary, industrial, agricultural, transport, etc.);

- the heat fund, implemented since 2009, supports heat production from renewable energy sources in the collective housing, tertiary, agricultural and industrial sectors.

Lessons learned from these measures is that the potential for GHG emission reduction in the industrial sector is significant and that measures targeting energy efficiency or specific emissions as N2O can have a strong effect on emissions without compromising competitiveness. In particular, the potential for energy savings is far from being exhausted and goes along with an enhanced competitiveness of industries.

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Question by Japan at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Use and approval process of the carbon budget under the SNBC

France stated that it calculated its carbon budget in the state low carbon strategy (SNBC). What is the calculation method and approval process of this carbon budget? Also, would you please tell us how the carbon budget is used for domestic policy?

The first three carbon budgets were constructed on the basis of a prospective scenario, called “the reference scenario”.

This scenario was developed under the aegis of a steering committee, made up of experts from the relevant ministries and industrial sectors. The steering committee was co-chaired by representatives of the Ministry for the Environment (General Directorate for Energy and Climate – DGEC, and the General Commission for Sustainable Development - CGDD) and the Agency for the Environment and Energy Efficiency (ADEME). The group's secretariat was composed of representatives of the Department for the Fight against the Greenhouse Effect, part of the General Directorate for Energy and Climate. This steering committee was cross-disciplinary in nature, incorporating sector-specific sub-committees (energy, transport, construction, industry, waste management, agriculture, forestry) when necessary. Throughout the working process - i.e. from the definition of the fundamental hypotheses up until presentation of the final results - the Information and Orientation Committee (CIO) met six times, inviting input from civil society figures regarding modelling decisions and discussing the results obtained. All organisations represented on the National Council for the Ecological Transition (which brings together representatives of employees, employers and consumers, environmental NGOs, territorial authorities and members of parliament) were invited to take part in these CIO meetings.

The reference scenario was constructed in successive phases, starting by drawing up a list of policies and measures already in place as of 1st January 2014, then adding those measures included in the draft bill on Energy Transition and Green Growth which could be easily modelled, and any additional initiatives or changes contributing to the attainment of the measures set down in law. Moreover, a series of sensitivity tests allowed the committee to measure uncertainty surrounding the impact of certain factors and determine the level of mobilisation required by different scenarios, based on discussions in the information and orientation committee meetings.

Designed to "steer policy," the SNBC is aimed primarily at public-sector decision-makers, particularly at national, regional and inter-municipal levels, including public institutions. For this priority target group, the SNBC and its carbon budgets are legally binding and must be respected.

The low-carbon strategy will be subjected to a comprehensive review cycle every five years. At this point, the perimeter covered by the next two budget cycles may be adjusted if necessary (particularly in light of France's commitments at European level regarding net carbon emissions connected to land usage and related changes). This process includes:

- the opinion from a committee of experts regarding the success of the carbon budgets already in place (the balance of the one now reaching its conclusion, projections for the next two budgets) and how to implement the current low-carbon strategy. These findings will be passed on to the standing committees of the National Assembly and the Senate responsible for energy and the environment.

- a government report covering the review of the low-carbon strategy, a draft for the forthcoming third carbon budget and any adjustments made to the first and second budget cycles. This report will clearly demonstrate how the draft carbon budget and the low-carbon strategy incorporate the domestic objectives, as well as France's European and international commitments. The report will assess the environmental, social and economic impact of the carbon budget for the coming periods and of the new low-carbon strategy,

particularly with regard to the competitiveness of economic activities subject to international competition, the development of new, local activities, and overall growth.

the opinion of the National Committee for the Ecological Transition and its committee of experts.

a decree setting out the low-carbon strategy and corresponding carbon budgets.

these decisions will be presented in Parliament, along with a quantitative summary of the most recent carbon budget and an analysis of the results achieved in this cycle.

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Question by China at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: sectoral goals under the EU-ESD

To achieve the emission reduction target for non-ETS sectors under the EU-ESD, has France formulated any sectoral goals?

Answer by France, Friday, 28 April 2017

Under the Effort Sharing Decision (ESD), France has a target of -14% in 2020 compared to 2005. For the post 2020 period, the European Commission proposes for France a target of -37% in 2030 compared to 2005.

The tools used to achieve this target are very diverse, but are mainly aimed at reducing emissions through specific measures, controlling energy demand and developing renewable energies, in line with the main objectives of the energy-climate package. Regarding the reduction of GHG emissions of other greenhouse gases than CO2 - methane, nitrogen dioxide, fluorinated gases, specific measures are in place in particular in agriculture and industry.

Those tools are part of the French strategy on low carbon transition (the SNBC), which has sectoral indicative targets (see page 93):

http://www.developpement-durable.gouv.fr/sites/default/files/170320_SNBC_France_low_carbon_strategy_translation_EN.pdf

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Question by China at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: long term low-carbon development strategy

We noticed that the first three carbon budgets under the National Low-Carbon Strategy cover the periods 2015-2018, 2019-2023, and 2024-2028. Does France have any long term low-carbon development strategy towards 2050?

Answer by France, Friday, 28 April 2017

The Energy Transition for Green Growth Act of August 2015 sets the objective to divide by 4 our greenhouse gas emissions by 2050. This target was indeed already adopted as soon as 2005 in the framework of a law on orientations for energy policy. This objective is also at the heart of the National Low-Carbon Strategy.

The low-carbon strategy has been transmitted to the UNFCCC as the French long-term strategy. This strategy gives a lot of orientations for 2050 with, for example, sectoral targets (- 70 % for transport, -87 % for buildings, about – 50 % for agriculture…).

The first revision of the Nation Low-Carbon Strategy has now been initiated, in order prepare the adoption of the second low-carbon strategy in 2019. It will give us the opportunity to take into account new information on emissions, technologies, recent evolutions… It will also allow us to go deeper into the debate with stakeholders on the orientations for 2050 and the following years.

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Question by China at Tuesday, 28 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: the Energy Transition for Green Growth Act

France adopted the Energy Transition for Green Growth Act in 2015. Could France share the implementation plan and recent progress of the Act?

Answer by France, Friday, 28 April 2017

The implementation of the Energy Transition for Green Growth Act has required a very important regulatory work in a very short time, with numerous consultations with the stakeholders on the texts of implementation and a strong mobilization of the consultative bodies. Currently, almost all the implementing legislation has been published (95% of the decrees – out of a total of 162 measures to be

taken – have been published).

The major planning tools created by this Act are currently in place:

- the National Low-Carbon Strategy outlines the cross-sector and sector-specific policies that will enable the targets to reduce greenhouse gas emissions in the medium and long term to be achieved (with especially the 40% reduction target by 2030). It includes a strategy paper up to 2050 and carbon budgets that establish France's greenhouse gas emission limits for five-year periods. The strategy and the first carbon budgets were published in November 2015 and the budgets cover the period from 2015 to 2028.

- the Multi-Year Energy Programme sets out the priorities for action by the public authorities to achieve the energy objectives defined in the Energy Transition and Green Growth Act. For the first time, all aspects of energy policy (managing energy demand renewable energy sources, security of supply, networks, etc.) and all types of energy are dealt with under one strategy, taking into account the fact that the various aspects of energy policy are interconnected and enabling the development of a comprehensive vision of the energy sector that will help achieve our objectives more effectively.

- The Clean Mobility Development Strategy, which is an annex to the Multi-Year Energy Programme and involves managing demand for mobility, developing clean vehicles with low pollution and greenhouse gas emissions and deploying the power supply infrastructure needed for them, optimising existing vehicles and networks, boosting a modal shift to means of transport that are less polluting and emit lower levels of greenhouse gas, including walking and cycling, and developing collaborative means of transport.

Beyond the national planning tools, the Act has also initiated a territorial dynamic, with financial supports to the implementation of actions by local collectivities, such as the development of renewable energies, clean mobility, energy renovation in building, circular economy, etc. (program “green growth projects in positive-energy regions” and “zero waste territories”).

Among the measures of the Act already implemented, we can cite as examples:

- the obligation to improve insulation when undertaking major renovation works: when undertaking any major building work, there is a requirement to improve building insulation. This measure aims to take advantage of the opportunities afforded when carrying out major building works to cut energy use and reduce heating bills. Major energy-savings can be made when working on building façades and roofs, given that this is an ideal time to insulate walls;

- renewing public fleets with low-emission vehicles: when replacing their vehicle fleets, the French State and its public bodies are required to purchase a minimum of 50% vehicles with low CO2 and air-polluting emissions, such as electric vehicles. Local authorities are required to ensure that 20% of their

new vehicles are clean vehicles. All new buses and coaches purchased for public transport services from 2025 onwards must be low-emission vehicles (half from 2020);

- a minimum of seven million electric charging points to be installed by 2030: to provide access to as many charging points as possible, for all types of rechargeable electric and hybrid vehicles, France aims to install at least seven million charging points by 2030. Private individuals who install a recharging point for electric cars are entitled to a 30% tax credit.

- Corporate Social Responsibility (CSR) reporting by institutional investors: institutional investors are called on to describe how their investment policies factor in social, environmental and governance criteria. In particular, institutional investors must explain how they deal with their exposure to climate risks and what they are doing to reduce global warming and implement ecological and energy transition;

- CSR reporting for large companies: large companies are called on to report their significant GHG emissions, both direct and indirect emissions.

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Question by China at Tuesday, 28 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: 2020 target

According to the TRR, France may achieve or overachieve its emission reduction target by 2020. Does France consider to formulate any new target with higher ambition to further stimulate domestic low-carbon transition?

Answer by France, Friday, 28 April 2017

The Energy Transition for Green Growth Act sets a target of 40% reductions in greenhouse gas emissions by 2030 compared to 1990, in line with the EU's 2030 Climate and Energy Policy Framework and the EU's NDC. This Act also sets the objective to divide by 4 our greenhouse gas emissions by 2050 compared to 1990. These objectives are enshrined in the National Low-Carbon Strategy.

For the achievement of these targets, France has adopted the principle of carbon budgets which are defined for four or five years periods. The three first carbon budgets have been adopted in 2015 for the periods 2015-2018, 2019-2023 and 2024-2028 with annual indicative targets. For 2020, the indicative target is 407 MtCO2e which corresponds to a reduction of 26 % compared to 1990 emissions.

The first revision of the Nation Low-Carbon Strategy has now been initiated. The second strategy will be adopted in 2019. This will give us the opportunity to assess the results already achieved and to

define the next carbon budget for 2029-2033 and potentially, if needed, to revise the carbon budgets for 2019-2023 and 2024-2028.

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Question by China at Tuesday, 28 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: contributions from market-based mechanism

Information on possible scale of contributions of market-based mechanism in CTF tables 2(e) I and 2(e) II is incomplete. Could France provide more information on this issue?

Answer by France, Friday, 28 April 2017

For its international compliance, France does not foresee to use the market-based mechanism identified in the CTF tables 2(e) I and 2(e) II, for GHG emissions generated in BR2 coverage (2014-2015).

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Question by United States of America at Monday, 27 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Sequestration

What accounts for the significant expected sequestration increase in LULUCF between 2013 and 2020 as shown in Table 6 of the BR? Between 2020 and 2030?

Answer by France, Friday, 28 April 2017

The figures of the Table 6 of the BR are based on the continuation of forest management practice and intensity, as documented in a study published in 2014.

This study doesn’t take into account the climate change consequences (despite a decrease of natural productivity of forest is currently observed), so the increase of the sink is supposed to continue in a theoretical and optimistic way.

It doesn’t take into account the risk of an ageing forest submitted to the effects of climate change and the need to increase the sustainable forest management, notably for environmental reasons, as it was stated in the National Program on Forestry and Wood which was adopted by decree in 2016.

New studies are currently ongoing and next biannual report could present more realistic values.

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Question by United States of America at Monday, 27 February 2017

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 28 February

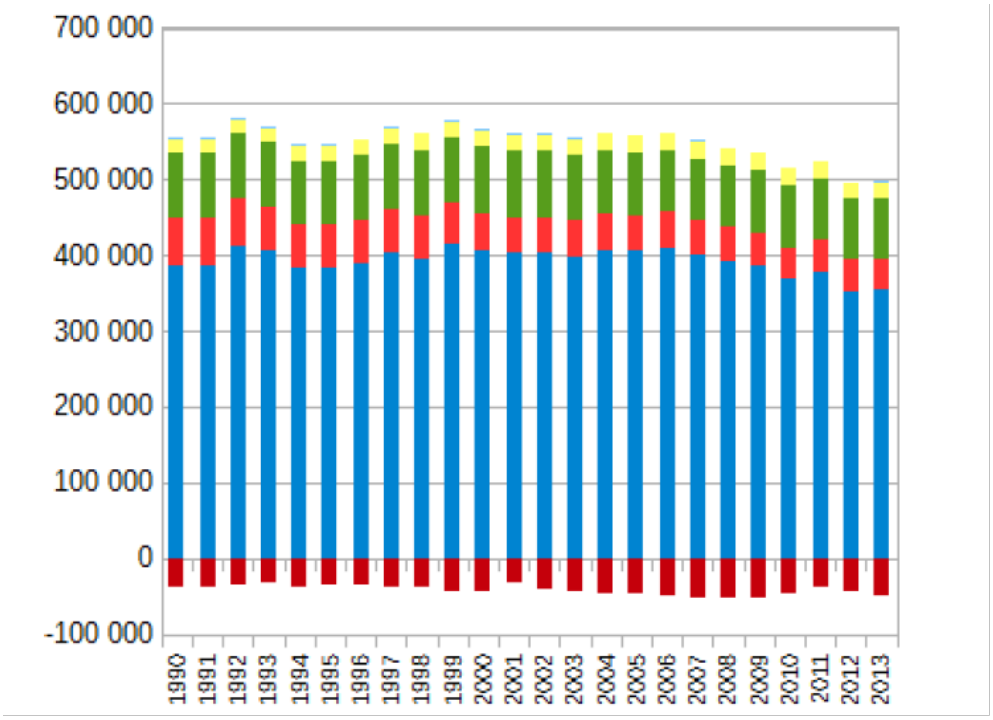
Title: Inclusion of LULUCF emissions

Do the reported 1990-2013 emissions reductions on page one exclude of LULUCF? If so, what are the corresponding numbers with LULUCF?

Answer by France, Friday, 28 April 2017

The reported 1990-2013 emissions reductions on page one exclude LULUCF.

With LULUCF and with indirect $CO_2$, the figure on page one becomes:




The differences in terms of numbers are reported in table below:

| Emissions kTCO$_2$e | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land use, land-use change and forestry | -37 524 | -36 133 | -32 264 | -37 314 | -34 820 | -36 256 | -39 347 | -39 534 | -42 815 | -44 103 | -33 536 | -40 380 |
| Energy | 387 027 | 412 971 | 404 814 | 384 342 | 382 588 | 389 054 | 402 478 | 394 763 | 415 809 | 406 642 | 402 553 | 403 083 |
| Industrial Processes | 61 174 | 61 050 | 58 722 | 56 670 | 57 399 | 57 769 | 57 998 | 58 590 | 52 953 | 48 482 | 46 940 | 47 082 |
| Agriculture | 86 876 | 86 177 | 84 826 | 83 734 | 83 362 | 84 203 | 85 088 | 85 433 | 85 543 | 87 613 | 87 245 | 86 547 |
| Waste | 17 385 | 18 153 | 18 992 | 19 810 | 20 271 | 20 602 | 20 763 | 20 871 | 21 347 | 21 580 | 21 871 | 22 026 |
| Indirect $CO_2$ | 1 994 | 1 911 | 1 862 | 1 751 | 1 741 | 1 740 | 1 713 | 1 707 | 1 714 | 1 691 | 1 757 | 1 702 |
| TOTAL | 516 933 | 544 129 | 536 951 | 508 993 | 510 541 | 517 112 | 528 693 | 521 830 | 534 552 | 521 906 | 526 830 | 520 059 |
| Difference because of LULUCF in % | 7,3% | 6,6% | 6,0% | 7,3% | 6,8% | 7,0% | 7,4% | 7,6% | 8,0% | 8,5% | 6,4% | 7,8% |

| Emissions kTCO$_2$e | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land use, land-use change and forestry | -43 187 | -47 761 | -47 758 | -49 033 | -52 901 | -52 876 | -51 721 | -45 974 | -39 383 | -43 356 | -48 780 | -46 566 |
| Energy | 398 002 | 406 582 | 406 077 | 409 956 | 400 202 | 390 320 | 384 804 | 369 028 | 377 627 | 351 411 | 355 109 | 356 644 |
| Industrial Processes | 47 705 | 48 618 | 46 699 | 46 303 | 45 344 | 46 026 | 44 258 | 40 990 | 42 170 | 41 748 | 39 952 | 40 607 |
| Agriculture | 85 234 | 82 492 | 82 472 | 81 545 | 82 107 | 82 688 | 83 048 | 82 171 | 81 016 | 81 076 | 80 435 | 79 633 |
| Waste | 22 178 | 22 257 | 22 086 | 22 050 | 22 084 | 21 959 | 21 976 | 21 396 | 21 516 | 20 985 | 20 238 | 19 877 |
| Indirect $CO_2$ | 1 606 | 1 501 | 1 439 | 1 408 | 1 350 | 1 221 | 1 114 | 993 | 1 055 | 1 082 | 1 024 | 1 005 |
| TOTAL | 511 539 | 513 688 | 511 016 | 512 229 | 498 185 | 489 338 | 483 479 | 468 602 | 484 001 | 452 946 | 447 978 | 451 199 |
| Difference because of LULUCF in % | 8,4% | 9,3% | 9,3% | 9,6% | 10,6% | 10,8% | 10,7% | 9,8% | 8,1% | 9,6% | 10,9% | 10,3% |

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Question by Brazil at Monday, 27 February 2017

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Table 6(a) - BR1 and BR2

In BR1, in table 6(a) “Information on updated greenhouse gas projections under a ‘with

measures' scenario", the GHG emissions projected for 2020 were 16.68 kt CO2 eq (with LULUCF) and 463.65 kt CO2 eq (without LULUCF ). In regards to BR2, the GHG emissions projected for 2020 were 405,930.00 kt CO2 eq (with LULUCF) and 467,530.00 kt CO2 eq (without LULUCF).

Could France please explain why the projections in BR2 are significantly above to those projections contained in BR1 (Total with and without LULUCF)?

Answer by France, Friday, 28 April 2017

In BR1, projections were given only without LULUCF (463,650 $ktCO2^{eq}$). The total emissions indicated in the line "Total with LULUCF" are not correct. The figure of 16,68 ktCO2e is not to be considered as a valid number. In BR2, projections were done both without LULUCF (467,530 $ktCO2^{eq}$) and with LULUCF (405,930 ktCO2eq).

Projections without LULUCF for 2020 in BR2 are slightly above those from BR1 (1% above) despite the fact that mitigation policies and measures were reinforced between 2013 and 2015. This comes from various factors including refinements in projection models, methods, input parameters, and calibration to reference years.

The main reason for the variation in CO2 emissions between BR1 and BR2 comes from different assumptions on the electric power mix. In France the emissions of energy industries are very low (13 % of overall emissions only) with 48 gCO2eq / kWh of electricity (in 2015) due to the important share of nuclear energy. In BR1 the emissions of electric industries were supposed to go on decreasing between 2015 and 2020 whereas in BR2 they were supposed to stay stable.

This difference between BR1 and BR2 illustrates the sensitivity of results in the energy sector. Nevertheless, in both cases (BR1 and BR2), emissions for this sector are very low. The fact that total emissions in BR2 projections are slightly above BR1 projections for 2020 has no consequence on the ability of France to reach its 2020 target.

For information, the Law for Energy Transition and Green Growth adopted in 2015 introduced the obligation to have a multiannual program for energy that plans the variation in means of production for energy for the next decade. The first multiannual program for energy has been adopted in 2016 and goes until 2023. The information coming from this multiannual program is going to be used for BR3 projections.

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Question by Brazil at Monday, 27 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: CTF Table 3 - Lessons learned and barriers

In “CTF Table 3 Progress in achievement of the quantified economy-wide emission reduction target: information on mitigation actions and their effects”, 28 mitigation actions were listed, while in BR1 10 mitigation actions were reported. Congratulations for this progress. However, mitigation impacts were estimated only for 2020. Are there any current estimates of mitigation impacts since the respective years of implementation?

Answer by France, Friday, 28 April 2017

In CTF Table 3, we have reported the mitigation impact for the year 2020 only.

Please note that in the CTF Table 3 included in the body of BR2 (pages 24 to 37), we have reported the mitigation impact of PAMs for the years 2013, 2020, 2025, 2030, 2035 when the information was available.

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Question by Australia at Monday, 27 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: France's LULUCF policies

Has France assessed the impact of policies in the LULUCF sector to improve its potential as a carbon sink?

Answer by France, Friday, 28 April 2017

The assessment of policies in the LULUCF sector is not easy: it is a step-by-step process.

On forestry, the National Program on Forestry and Wood which was adopted by decree in 2017 explains the necessity of a strong investment policy in this sector, to go along with the Paris-agreement article 4-1, to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, and with article 5-1, to conserve and enhance sinks and reservoirs of greenhouse gases including forests. The objective is to increase harvest by 12Mm$^3$ within a decade, in order to ensure that the forest will be healthy and resilient to climate change until the end of the century and thereafter. That is the general strategy and the qualitative global assessment.

The studies made upfront this decree assess the quantitative impact of this forestry and wood policy. This is an ex-ante assessment. It is robust in the short term but it doesn't take into account all the consequences of the aging of the forest, especially in the context of climate change, which is an important bias. So it cannot reflect properly the medium and long term impacts.

Of course, annual inventories are ex-post assessments in the short term.

Research for new ex-ante assessments taking into account the climate change consequences are ongoing and they will begin to give a global picture in the medium and long term. The first conclusions are expected in the coming months.

On agriculture, some ex-ante studies assess the impact of some practices. They have to be improved to take cross-cutting effects ant long term effects. Research programs have been reinforced on this matter with for example the "4/1000" soil program which is focused on the possibility to increase the carbon content in agricultural soils.

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Question by Australia at Monday, 27 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Market Mechanism under the Effort Sharing Decision

On page 11 of its BR2 France states it is not possible to quantify the use of market mechanisms under the ESD until 2016. Can France now provide an update on the amount/type of units (if any) that have been used?

Answer by France, Friday, 28 April 2017

The Effort Sharing Decision (ESD) allows for the use of market mechanisms. This can take one of two forms. First, Annual Emission Allowances (ESD units, also called "AEAs") correspond to annual carbon budgets that are allocated each year to Member States. AEAs can be transferred to other Member States. Secondly, Member States can use a limited amount of international credits issued in

the context of the Kyoto Protocol. The use of those credits is limited to 3% of a Member State's 2005 emissions (article 5 of the Effort Sharing Decision n° 406/2009/CE).

The first compliance period under the ESD concerns the year 2013 and has occurred at the end of 2016. Regarding 2013, France's budget is higher than its 2013 verified emissions under the ESD. Hence, France has no need to use market mechanisms to comply with the ESD. It has not received any allowances from other Member States and has not used any international credits.

After the 2013 compliance phase is completed, it will be possible to start the compliance phase for 2014, which is foreseen to happen during 2017. The compliance for the following years will then happen successively, as soon as the data for those years are available.

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Question by Thailand at Wednesday, 22 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Carbon Price for Projection

> In Section 4: Projections of greenhouse gas emissions, what are the references of carbon prices in “Carbon pricing in the EU ETS: €10 per tCO2e in 2020, €35 per tCO2e in 2030”.

Answer by France, Friday, 28 April 2017

The carbon prices 2020 to 2035 are based on results of the EU Reference scenario 2013: “EU Energy, transport and GHG emissions. Trends to 2050. Reference scenario 2013” prepared by the European Commission, Directorate-General for Energy, Directorate-General for Climate Action and Directorate-General for Mobility and Transport (p37).

Method used in the report for the projections of the carbon pricing in the EU ETS:

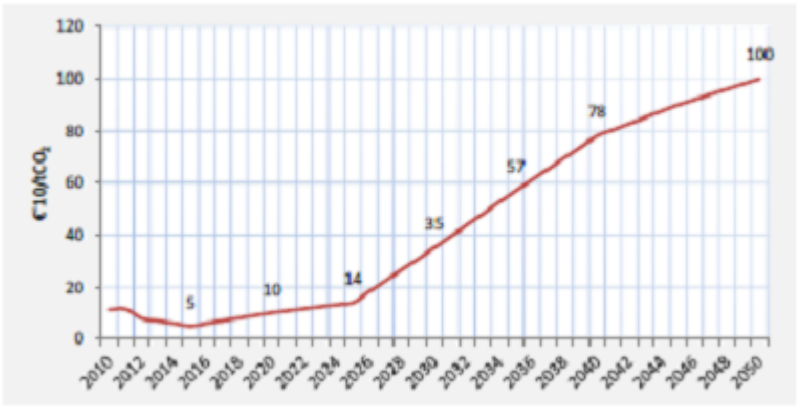
The annual volume of available EU ETS allowances (quoted as allowances hereafter) following the Directive provisions on the emissions cap, is assumed to decrease by 1.74% p.a. from 2013 throughout the projection period, except for aviation for which the cap remains stable from 2013 onwards at 95% of average 2004-6 emission levels.

ETS prices are endogenously derived from the models used by the EU (PRIMES model and GAINS model) so as the cumulative ETS cap is met; the continuously decreasing number of available allowances combined with the significant allowance surplus which is only projected to decrease after 2020 suggest that the ETS price will follow only a slowly increasing trend until 2025 and stronger

increases thereafter; it is projected to reach 10€$_{2010}$/tCO2 in 2020, 35€$_{2010}$/tCO2 in 2030 and 100€$_{2010}$ /tCO2 in 2050. The PRIMES model simulates emission reductions in ETS sectors as a response to current and future ETS prices, taking into account risk-averse behavior of market agents which leads to banking of allowances, perfect foresight of the carbon price progression in the period 2020-50 and that no borrowing from the future is permitted.

Source: "EU Energy, transport and GHG emissions. Trends to 2050. Reference scenario 2013"

**FIGURE 11: PROJECTION OF THE ETS PRICE**

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Question by Thailand at Wednesday, 22 February 2017

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: Mitigation Effects

In Section "Direct and indirect effects", what are the indirect social effects of the measures? (Pages#40-41)

Answer by France, Friday, 28 April 2017

For the measures presented in the table of pages 40-41, no major indirect social effects of the measures have been identified. Though, it is to be noted that some identified indirect environmental effects, like the potential impact of biofuels development on deforestation, can also lead potentially to social impacts.

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Question by Thailand at Wednesday, 22 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: IPCC guideline

In Section 3.1: Mitigation measures and their effects, please check with IPCC definition that it is correct “In 2013, the energy sector accounted for 11.6% of France’s greenhouse gas emissions”. What “energy sector” means

Answer by France, Friday, 28 April 2017

It refers to the industry of energy: electricity production, heat production and petroleum refining.

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Question by Thailand at Wednesday, 22 February 2017

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 28 February

Title: IPCC guideline

Did France apply the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Guidelines)?

Answer by France, Friday, 28 April 2017

Until now, we have not yet used the specific IPCC guidelines about Wetlands.

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